Show Me Value
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Show Me Missouri

LIFE SCIENCES RESEARCH

LIFE SCIENCES MISSOURI

⇒ There are over 2,000 life sciences companies, labs, or institutions in Missouri.

⇒ Over 16,000 employees, or 9% of the almost 180,000 life sciences jobs in the state, were engaged in research in 2003.

⇒ Missouri ranks no. 2 in plant genomics funding from the National Sciences Foundation; no. 5 in total life sciences funding.

Battelle Memorial Institute defines life sciences research as a cluster of:

⇒ Commercial research: laboratories, medical, and non-laboratory
⇒ Noncommercial biological research organizations and institutes
⇒ Biological research
⇒ Scientific research agencies
⇒ Testing laboratories
⇒ Food testing services
⇒ Seed testing laboratories
⇒ Veterinary testing

Life sciences research in Missouri is a collaboration between global corporations such as Monsanto and Pfizer, world-class academic institutions such as Washington University and the University of Missouri, and pure research institutions such as the Donald Danforth Plant Science Center and the Stowers Institute for Medical Research.

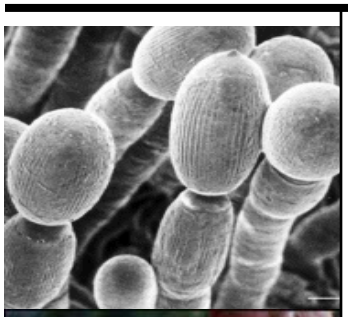
MU'S LIFE SCIENCES IMPACT

The University of Missouri-Columbia (MU) opened its $60 million Life Sciences Center in August 2004. The Center's 134,000 sq. ft. is divided into eight core research areas focusing on basic and applied food and environmental research, especially crop performance and bioremediation, disease prevention and treatment. A business incubator will be added by 2006.

⇒ MU is one of only six universities nationwide with agriculture, engineering, law, medicine and veterinary medicine on the same campus; faculty collaborate in groundbreaking life sciences research and the resulting applications.
⇒ MU is #1 of all AAU universities in research growth over the last five years.
⇒ In 2002, faculty brought $171 million in federal, state and private research funding to Missouri, generating an economic impact of about $500 million.
⇒ Researchers from MU's Radiopharmaceutical Sciences Institute have developed three FDA-approved cancer drugs: Ceretec, a diagnostic drug that provides images of blood flow in the brain; Quadramet, pain relief for bone cancer patients; and TheraSphere, a radioisotope used to treat liver cancer.

http://lifesciences.missouri.edu/

NORTH AMERICA'S BUSINESS CENTER
MISSOURI



"We're in St. Louis because of the community of scientists that's here…"

David Duncan, President & CEO, Chlorogen

Leaders in Plant & Life Science Research

The Donald Danforth Plant Science Center is a $146 million world-class facility researching biofortification of foods and feeds, crop drought tolerance, genetic mechanisms to control pests and pathogens, and the development of plants as biorenewable resources. The Center collaborates with Washington University, MU, Purdue University, the University of Illinois, Monsanto Company, and the Missouri Botanical Garden. *www.danforthcenter.org*

The Missouri Botanical Garden operates the world's most active research program in tropical botany, with an herbarium of more than 5.5 million specimens. It adds an average of 124,000 specimens/year. *www.mobot.org*

Washington University is the Midwest's top school: its medical school ranks #2 in the entire nation, the university itself #11 by *U.S. News & World Report*. A new $300 million initiative named Bio Med 21 will speed laboratory advances to medical treatments in a $150 million, 250,000-sq. ft. research building at the center of the university's medical campus. www.wustl.edu

Corporate Expansion

Chlorogen is the world leader in chloroplast transformation technology, which creates up to 1,000 times more plant protein. The technology could also increase therapeutic drug availability and reduce costs. *www.chlorogen.com*

Pfizer, world's largest research-based drug manufacturer, has one of its six global R & D centers in St. Louis. Pfizer scientists collaborate with researchers at Washington University School of Medicine. *www.pfizer.com*

Sigma-Aldrich researchers won the 2004 Nobel Prize in chemistry; and the firm recently doubled its R & D expenditures. Sigma-Aldrich develops, manufactures and distributes biochemical, organic chemicals, chromatography products and diagnostic reagents. *www.sigmaaldrich.com*

Monsanto, world's premier agricultural life sciences company, continues to seed the I-70 corridor with continued collaboration and new start-ups such as soil erosion specialists Innovium, Inc. *www.monsanto.com*

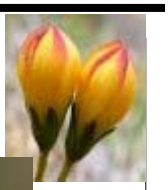
MISSOURI

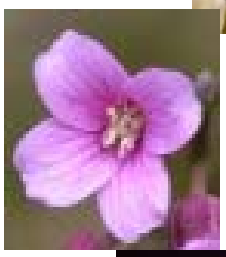
Venture capital: Research Ally

Venture capital is a vital piece of the puzzle needed to support life science research and entrepreneurship. And Missouri's climate is right for life sciences venture capital, with more than $400 million raised in the eastern part of the state alone in the past few years. In 2002, four Show-Me State institutions — Washington University, the Danforth Foundation, the Missouri Foundation for Health, and The James D. McDonnell Foundation — pledged $60 million to fund Vectis Life Sciences Fund, a fund of funds that would place capital with smaller venture capital firms. By December 2004, Vectis had more than $80 million.

The following major Missouri venture capital funds focus on early stage medical and biotech investments:

⇒ Ascension Health Ventures, in St. Louis, funded for $125 million
⇒ Auxyn Bioscience Ventures, St. Louis, $250 million
⇒ Discovery Life Sciences Fund, St. Louis, $100 million
⇒ Oakwood Medical Investors, Kirkwood, $30 million (fourth fund)
⇒ Prolog Ventures, Clayton, $34 million (second fund)
⇒ RiverVest Venture Partners, $89 million
⇒ Triathalon Medical Ventures, Creve Coeur, $96 million





Incubating success

Incubators, working in close collaboration with academia and private firms, develop and nurture the life science start-ups that produce new discoveries and technologies. Missouri has two major incubators, and one planned.

⇒ Nidus Center for Scientific Enterprise

This non-profit plant and life science incubator, aided by Monsanto, focuses on entrepreneurial clients refining and preparing new technologies for market, with a focus on plant science innovation. The center is expected to generate more than $1.5 billion for the St. Louis regional economy over the next 15 years. *www.niduscenter.com*

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⇒ Center for Emerging Technologies

This private non-profit business incubator specializing in biotechnology, biomedical engineering, advanced materials and electronics start-ups was named one of the top 10 incubators in the country by the National Business Incubation Association in 2003; it was #1 in average revenue growth. The center has helped start 17 companies, including DNA Polyerase and Gateway Analytical. The center recently completed an $8 million expansion. *www.emergingtech.org*

⇒ A third, the $9 million Mid-Missouri Technology Business Incubator, will be built on MU's campus by 2006 to complement and advance to market MU Life Sciences Center breakthroughs. *www.ourincubator.com*

"St. Louis has what it takes—high quality of life sciences research universities actively engaged with industry, businesses networked to universities and among themselves, indigenous early seed capital for investment, and a strong flow of federal research grants."
— Neal R. Pierce, Washington Post

NORTH AMERICA'S BUSINESS CENTER
MISSOURI

MISSOURI: STRONG GROWTH

The growth of the state's life sciences firms has exceeded that of the state as a whole: Life sciences firms grew by 8.13% between 1996 and 2002, while the total number of firms in the state increased by 7.62%. Jobs in the life sciences pays 24% better than the state average, too — almost $42,000 vs. just over $34,000 — translating into more private and public revenue, which in turn generates more research revenue.

UNIVERSITY OF MISSOURI COMPARATIVE MEDICINE

MU researchers are leading the way in comparative medicine, a field of research that uses biological models from a range of animals to further the mechanistic understanding of and cure for human diseases.

MU is a national leader in developing genetically engineered mice (primarily for research), rats (human disease analogues: cancer, diabetes, neurological diseases) and swine (type II diabetes). Porcine research in particular shows great promise for xenotransplantation, transplanting replacement organs into humans, a procedure which could potentially save up to 70,000 lives a year now lost through organ failure or rejection.

MISSOURI DIVISION OF BUSINESS DEVELOPMENT & TRADE SERVICES & SUPPORT

Site Location Services: Missouri's Business Development & Trade Division offers comprehensive project management services to assist businesses with location solutions.

Global Trade & Investment: The Division operates offices in Mexico, Japan, and China to facilitate global trade and investment.

Financial Assistance: Business Development and Trade also serves as a portal for qualifying firms seeking additional financial assistance to support market expansion and capital expansion projects. The Division is directly responsible for administration and implementation of a wide variety of incentives.

Community Access: The Division serves as a conduit for expediting linkages between business and community economic development representatives.

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Sources: Bureau of Labor Statistics, Missouri Information & Research Center, *St. Louis Post-Dispatch*, *usnews.com*: "America's Best Colleges 2005," *www.biobelt.org*, featured partners' websites.

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